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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/742,390	12/22/2000	Naomi Nishiki	2000_1751A	8729

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EXAMINER

DONG, DALEI

ART UNIT	PAPER NUMBER
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2875

DATE MAILED: 11/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/742,390	NISHIKI ET AL.	
	Examiner	Art Unit	
	Dalei Dong	2875	

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 12 September 2003.

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 8-25 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 8-25 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on 22 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All b) ☐ Some c) ☐ None of:

1. ☒ Certified copies of the priority documents have been received.

2. ☒ Certified copies of the priority documents have been received in Application No. 09/742,390.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s) _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 8-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,106,353 to Kimura in view of U.S. Patent No. 6,283,814 to Lee.

Regarding to claims 8-14, 16-23 and 25, Kimura discloses in Figure 1(a) "a process in which the shadow mask is set. The shadow mask 1 is an example of the slot-type one-dimensional tension type shadow mask. Furthermore, the mask frame 2 is a rectangular frame. Upper and lower long side frames 2a and 2b are respectively fixed to right and left of short side frames 2c and 2d so as to form the mask frame 2" (column 5, line 3-8).

Kimura also discloses in Figure 3, "in this process, the holding device 3 shown in FIG. 3 holds the shadow mask 1 and positions the shadow mask 1 with respect to the mask frame 2. This positioning is carried out by putting a projection provided on the holding device 3 into a hole or a notch provide don the shadow mask 1" (column 5, line 9-13).

Kimura further discloses in Figure 1(a), "wrinkles and sagging are removed from the shadow mask by sufficiently stretching (*preliminary force*) the shadow mask 1 in the

outward direction with respect to its center while holding the shadow mask 1 in a curved shape. The direction in which the shadow mask is stretched may be only in the stretched direction (the direction shown by the arrow a of FIG. 1(a)) or in a direction diagonal to the shadow mask 1 (the direction shown by the arrow c of FIG. 1(a)) or in both directions. In this case, the shadow mask 1 is stretched by moving the holding device 3 in the direction in which the shadow mask 1 is stretched or by sliding the magnet pieces located on the four corners of the shadow mask 1 in the radial direction” (column 5, line 25-35).

Kimura further yet discloses, “according to the methods, the shadow mask 1 can be fixed in a state in which the shadow mask is stretched on the mask frame 2. With such a method, since a tension force can be applied without wrinkles generated on the shadow mask 1 in the next process, nonuniformity in stress occurring on the shadow mask after welding, thus causing the generation of wrinkles, can be prevented” (column 5, line 36-43).

Kimura further yet discloses in Figure 1(b), “the chucking process of the shadow mask. In this process, the chucking device 5 shown in FIG. 3 is used. The shadow mask 1 is sandwiched by an upper chucking jig (fixture) 6 and a lower chucking jig 7” (column 5, lines 44-47).

Kimura further yet discloses in Figure 1(b), “the upper chucking jig 6 has a lower surface 6a that is a curved surface (concave shape). The lower chucking jig 7 has an upper surface 7a that is a curved surface (convex shape). Therefore, when the shadow mask 1 is sandwiched between the upper chucking jig 6 and the lower chucking jig 7, a

predetermined curved shape that is the same as the upper surface 3a of the holding device 3 is kept" (column 5, lines 48-54).

Kimura further yet discloses in Figure 1(c), "a process in which the shadow mask is stretched. In this process, the shadow mask 1 sandwiched by the chucking device 5 from the upper and lower sides is stretched and tension force is applied in the direction of the arrow a." (column 5, lines 55-59).

Kimura finally discloses in Figure 2(a), "a process in which the mask frame is pressed. In this process, compression force (*main force*) (shown by arrow b) is applied to the side face of an upright portion of the L-shaped portion. FIG. 4 is a perspective view showing a pressing device used in this process in one embodiment of the present invention. FIG. 4 shows only the side of the frame 2a, but the same device is located also in the side of the frame 2b" (column 5, lines 60-67).

Kimura discloses the claimed invention except for a tension force of an strength of 9.8 to 490 N. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have chosen a tension force of an strength of 9.8 to 490 N, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

However, Kimura does not disclose the through holes provided on a perforation region. Lee teaches in Figure 5, the edge portion of the tensioned mask 6 is formed with a bored portion 6e having a plurality of holes 6d. In this structure, when the glass frame

8 is formed, the glass solution for forming the glass frame 8 fills up the holes 6d so that the tensioned mask 6 can be rigidly secured to the glass frame 8" (column 3, line 36-41).

Lee discloses the claimed invention except for holes of a diameter of 3 to 8 mm. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have chosen a hole of a diameter of 3 to 8 mm, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilize the holes of Lee for the construction of the shadow mask of Kimura in order to eliminate wrinkles and nonuniformity in the shadow mask.

Regarding to claims 15 and 24, Kimura reference in view of Lee reference discloses the claimed invention except for the main tension force has a magnitude in a range of 980 N to 9800 N. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have adjust the main tension force in accordance to the pressure needed to bend the shadow mask frame, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Response to Arguments

3. Applicant's arguments filed September 12, 2003 have been fully considered but they are not persuasive.

In response to Applicant primary argument that the Kimura reference fails to disclose or suggest applying a preliminary tension force before applying a main tension force; Examiner asserts that Kimura reference clearly and distinctively discloses the stretching of the shadow mask and hence applying a "preliminary tension force" and application of a compression force to the side of the shadow mask frame and hence "main tension force". Further Examiner asserts that albeit, Kimura reference does not specifically disclose that the "preliminary tension force" is in a range of 9.8 N to 490 N, however, Kimura reference states "wrinkles and sagging are removed from the shadow mask by **sufficiently** stretching the shadow mask 1 in the outward direction with respect to its center while holding the shadow mask 1 in a curved shape", thus it would have been obvious to one having ordinary skill in the art at the time the invention was made to have apply sufficient tension force to stretch the shadow mask as taught by Kimura reference. Furthermore, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Finally, Applicant fail to establish the criticality of the claimed ranges of the preliminary tension force, no testing nor analysis that would not be obvious to one having ordinary skill in the art were performed to demonstrate the advantage or the criticality of the claimed range of preliminary tension force.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

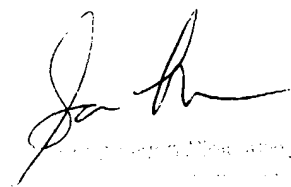
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalei Dong whose telephone number is (703)308-2870. The examiner can normally be reached on 8 A.M. to 5 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (703)305-4939. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

D.D.
October 24, 2003



Dalei Dong